

ABSTRACT

A vapor deposition method is provided that can form a highly uniform epitaxial layer even under different growth conditions. The vapor deposition method uses a reactant gas (15) to form a thin film on a substrate (7) in a process chamber (2), by an apparatus including the process chamber (2), a flow channel (5) for supplying the reactant gas (15) onto the substrate (7) and discharging the reactant gas, a substrate holding portion holding the substrate (7), moving means (12) for relatively moving the substrate holding portion and the flow channel (5), control means (13) for controlling the moving means (12), and heating means (10) for heating the substrate (7). In advance before crystal growth, the control means (13) measures relative positions of the flow channel (5) and the substrate holding portion under each growth condition and stores positional data concerning the measured positions. Based on a set growth condition as well as the stored positional data, the control means (13) performs control of the position of the substrate holding portion or the position of the flow channel (5) to decrease a change in relative positions of the flow channel (5) and the substrate (7).